

REMARKS

Reconsideration is respectfully requested in view of any changes to the claims, the Board's Decision in child application SN 08/479810 and the remarks herein. Please contact the undersigned to conduct a telephone interview in accordance with MPEP 713.01 to resolve any remaining requirements and/or issues prior to sending another Office Action. Relevant portions of MPEP 713.01 are included on the signature page of this amendment.

Applicants acknowledge the following domestic claim of priority:

This application is a continuation of 08/060,470 05-11-1993

Abandoned, is a continuation of 07/875,003 04-24-1992

Abandoned, is a Division of 07/053,307 05-22-1987 Abandoned

Applicants acknowledge the foreign claim of priority under 35 USC Section 119 to an application filed on 23 January 1987 on their behalf in the European Patent Office as European patent application Serial No. 87100961.9 (European '961 patent). Submitted in the parent application (Application Serial No. 07/053,307 filed 05/22/1987) of the present application were (1) a certified copy of the European '961 patent application upon which the claim to priority is based; and (2) a supplemental Declaration and Power of Attorney for the application duly executed by the Applicants, Drs. Bednorz and Mueller on 4 February 1992 and 28 February 1992, respectively, in which a claim of priority under 35 USC Section 119 to the European '961 patent application is made.

The top of page 7 of the Board's Decision in child application SN 08/479810 (Board's Decision) found enabled by Applicants' Specification a superconductive element comprising;

- a material comprising a T_c greater than or equal to 26°K carrying a superconducting current wherein the material:
- comprises a transition metal, oxygen and at least one element selected from the group consisting of a first element group, a second element group and combinations thereof;

- the first element group comprises rare earth elements, rare earth-like elements and Group IIIB elements, and
- the second element group comprises alkaline earth elements and Group IIA elements.

SUPPORT FOR ADDED CLAIMS

Added independent claims are supported by Applicants Specification and the Board's Decision on SN 08/479,810.

CLAIMS 360, 272 and 182 are independent claims with slightly different wording.

There are three claims groups each having 4 independent claims with essentially the same dependent claims with some small variations.

Group 1 claims are Claims 178 to 267. CLAIMS 182, 228, 229 and 230 are independent claims with slightly different wording.

Group 2 claims are Claims 268 to 355 CLAIMS 272, 318, 319 and 320 are independent claims with slightly different wording.

Group 3 claims are Claims 356 to 426 CLAIMS 360, 406, 407 and 409 are independent claims with slightly different wording.

Group 4 claims are Claims 429 to 486 CLAIMS 433, 479, 480, and 481 are independent claims with slightly different wording.

Support for claims is as follows.

CLAIMS 429, 356, 268 and 178 have the same support as SN 08/479,810 claim 552

CLAIMS 430, 357, 269 and 179 have the same support as SN 08/479,810 claim 553

CLAIMS 431, 358, 270 and 180 are directed to copper

CLAIMS 432, 359, 271 and 181 are directed to copper

CLAIMS 433, 360, 272 and 182 have the same support as SN 08/479,810 claim 561

CLAIMS 434, 361, 273 and 183 have the same support as SN 08/479,810 claim 562

CLAIMS 435, 362, 274 and 184 have the same support as SN 08/479,810 claim 563

CLAIMS 436, 363, 275 and 185 have the same support as SN 08/479,810 claim 564

CLAIMS 437, 364, 276 and 186 have the same support as SN 08/479,810 claim 565

CLAIMS 438, 365, 272 and 187 have the same support as SN 08/479,810 claim 566

CLAIMS 439, 366, 278 and 188 have the same support as SN 08/479,810 claim 567

CLAIMS 440, 367, 279 and 189 have the same support as SN 08/479,810 claim 568

CLAIMS 441, 368, 280 and 190 have the same support as SN 08/479,810 claim 569

CLAIMS 442, 369, 281 and 591 have the same support as SN 08/479,810 claim 570

CLAIMS 443, 370, 282 and 192 have the same support as SN 08/479,810 claim 571

CLAIMS 444, 371, 283 and 193 have the same support as SN 08/479,810 claim 572
CLAIMS 445, 372, 284 and 194 have the same support as SN 08/479,810 claim 573
CLAIMS 446, 373, 285 and 195 have the same support as SN 08/479,810 claim 574
CLAIMS 447, 374, 286 and 196 have the same support as SN 08/479,810 claim 575
CLAIMS 448, 375, 287 and 197 have the same support as SN 08/479,810 claim 576
CLAIMS 449, 376, 288 and 198 have the same support as SN 08/479,810 claim 577
CLAIMS 450, 377, 289 and 199 have the same support as SN 08/479,810 claim 578
CLAIMS 451, 378, 290 and 200 have the same support as SN 08/479,810 claim 579
CLAIMS 452, 379, 291 and 201 have the same support as SN 08/479,810 claim 580
CLAIMS 453, 380, 292 and 202 have the same support as SN 08/479,810 claim 581
CLAIMS 454, 381, 293 and 203 have the same support as SN 08/479,810 claim 582
CLAIMS 455, 382, 294 and 204 have the same support as SN 08/479,810 claim 583
CLAIMS 456, 383, 295 and 205 have the same support as SN 08/479,810 claim 584
CLAIMS 457, 384, 296 and 206 have the same support as SN 08/479,810 claim 585
CLAIMS 458, 385, 297 and 207 have the same support as SN 08/479,810 claim 586
CLAIMS 459, 386, 298 and 208 have the same support as SN 08/479,810 claim 587
CLAIMS 460, 387, 299 and 209 have the same support as SN 08/479,810 claim 588
CLAIMS 461, 388, 300 and 210 have the same support as SN 08/479,810 claim 589
CLAIMS 462, 389, 301 and 211 have the same support as SN 08/479,810 claim 590
CLAIMS 463, 390, 302 and 212 have the same support as SN 08/479,810 claim 591
CLAIMS 464, 391, 303 and 213 have the same support as SN 08/479,810 claim 592
CLAIMS 465, 392, 304 and 214 have the same support as SN 08/479,810 claim 593
CLAIMS 466, 393, 305 and 215 have the same support as SN 08/479,810 claim 594
CLAIMS 467, 394, 306 and 216 have the same support as SN 08/479,810 claim 595
CLAIMS 468, 395, 307 and 217 have the same support as SN 08/479,810 claim 596
CLAIMS 469, 396, 308 and 218 have the same support as SN 08/479,810 claim 597
CLAIMS 470, 397, 309 and 219 have the same support as SN 08/479,810 claim 598
CLAIMS 471, 398, 310 and 220 have the same support as SN 08/479,810 claim 599
CLAIMS 472, 399, 311 and 221 have the same support as SN 08/479,810 claim 600
CLAIMS 473, 400, 312 and 222 have the same support as SN 08/479,810 claim 601
CLAIMS 474, 401, 313 and 223 have the same support as SN 08/479,810 claim 602
CLAIMS 475, 402, 314 and 224 have the same support as SN 08/479,810 claim 603
CLAIMS 476, 403, 315 and 225 have the same support as SN 08/479,810 claim 604
CLAIMS 477, 404, 316 and 226 have the same support as SN 08/479,810 claim 649
CLAIMS 478, 405, 317 and 227 have the same support as SN 08/479,810 claim 650
CLAIMS 479, 406, 318 and 228 have the same support as SN 08/479,810 claim 561
CLAIMS 480, 407, 319 and 229 have the same support as SN 08/479,810 claim 561
CLAIMS 481, 408, 320 and 230 have the same support as SN 08/479,810 claim 561
CLAIMS 482, 409, 321 and 231 have the same support as SN 08/479,810 claim 659

Other dependent claims have support is the Specification and original claims

The Specification has support for added claims directed to persistent current. A zero resistance element can have a current flowing in it which does not need a current source or voltage source (or any source) to provide for the flowing current. Once a current is started in a coil with zero resistance the current continues to flow without attenuation without a source of current or a

voltage driving it(or any other driving force) since there is substantially zero resistance in the element. Any resistance in such coil will cause the current to attenuate. This is an inherent property of zero resistance. This is supported by the paragraph bridging pages 6 and 7 of Applicants' Specification. Moreover, that this is an inherent property of a superconducting coil is shown by the book "Theory of Superconductivity" M. Von Laue, Academic Press, Inc., 1952 a copy of which is in Brief Attachment AT to Applicants Appeal Brief. This book describes persistent currents at pages 3, 10, 41, 49, 61, 68, 70, 73, 74, 75, 91 and 132. See the index of this book. This book states at in the paragraph bridging pages 2 and 3 of Chapter 1 entitled "Fundamental Facts":

[I]f one merely wished verify the complete disappearance of the resistance below the transition temperature T_C , experiments with persistent currents, also due to Kamerlingh Onnes⁴, are far more convincing and exact.

(b) One possible procedure is to place a ring or short circuited coil in a magnetic field while its temperature is still above T_C , cool it down until superconductivity appears, and then remove it from the field. The induced electromotive force produces a current in the superconductor which will persist indefinitely unchanged in magnitude as long as superconductivity remains.